

### REMARKS

Reconsideration and withdrawal of the rejection with respect to all of the claims now in the application (i.e., Claims 1-15) are respectfully requested in view of the foregoing amendments and the following remarks.

At the outset, by this Amendment, the specification has been corrected to delete incorrect reference numeral 414 on page 10, line 20. In addition, the drawings of Figs. 5 and 5A have been corrected and, as the Examiner will note, reference numeral 424 has been deleted from the figures. In addition, the specification has been amended to make reference to the strain reliever 422 shown in Fig. 5. A new schematic representation of the lamp assembly has also been added as Fig. 1b to illustrate the features identified in Claims 1 and 8 as specifically set forth in paragraph 3 of the Office Action. Accordingly, it is believed that the objection to the specification and the drawings have been resolved.

The rejection of Claims 1-5, 8-12, and 15 as being anticipated by Muller is respectfully traversed. By this Amendment, the independent Claims 1 and 8 have been amended to specifically recite heat sink means to dissipate heat from the ballast, as described on page 9 of the specification. As Muller does not describe heat dissipation

means, it is respectfully submitted that the claims are not anticipated by Muller.

Moreover, it is respectfully submitted that the claims, as amended are not unobvious over Muller. As noted above, Muller does not disclose the employment of a heat sink to discharge heat from the ballast. Moreover, as apparently recognized by the Examiner, Muller does not disclose the ballast container being potted with a thermally conductive epoxy which serves in the preferred embodiment as the heat sink to discharge heat from the ballast. Regardless of whether the container for the ignitor in Muller is made of metal, this still affords no suggestion of the use of a heat dissipation means for the ballast unit. It should also be noted that in Muller the ignitor 94 is separate from the ballast unit 118 and there is no suggestion in Muller of providing a heat sink for the ballast unit. Furthermore, there is no suggestion of providing a sealed ballast container mounted adjacent to the glass envelope as set forth in Claims 1 and 8. In view of the foregoing, it is respectfully submitted that the claims are neither anticipated nor rendered obvious by Mueller.

Applicant hereby requests a two month extension of time in which to respond to the outstanding Office Action. Credit Card payment form no. PTO-2038 for \$200.00 is enclosed . Any fee deficiency or overpayment may be charged or credited to Applicant's Deposit Account No. 07-0130.

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In view of the foregoing, reconsideration and withdrawal of the objection and allowance of the application at an early date are earnestly solicited.

Respectfully submitted,



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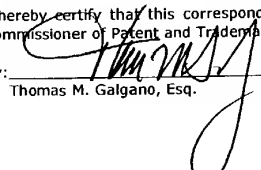
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Enclosure: U.S.P.T.O. Credit Card Payment Form in the amount of \$200.00  
Version with markings to show changes pp.8-14  
Drawing containing corrections to Fig. 5a and 5b, 10-14  
Drawing of new Fig. 1b  
Postcard

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By:

  
Thomas M. Galgano, Esq.

Dated: November 19, 2002

VERSION WITH MARKINGS TO SHOW CHANGES MADE

Paragraph appearing at page 10, line 20 to page 11 line 2

Figures 5 and 5a illustrate a lamp 410 which is housed in a monolithic cylinder 418[, 414] having a transparent window 426 at one end and a strain reliever 422 at its opposite end. The lamp 410 is a 10-30 watt lamp, has an overall length of about 5 5/18 inches and a maximum diameter of about 2 1/2 inches. The monolithic cylinder is preferably hermetically sealed and waterproof to a predetermined depth.

First paragraph on page 9

Turning now to Figures 1 and 1a, a lamp 10 according to the invention includes a hermetically sealed quartz glass envelope 12 containing an anode 14, a cathode 16, and mixture of ionizable elements and/or compounds (not shown). A sealed ballast container 18 is mounted immediately adjacent to the glass envelope 12. As shown in Fig. 1b, an electronic ballast 13 (schematically illustrated) having an input 20 and an output 15 [A ballast (not shown)] is located in the sealed container 18 and its output 15 is electrically coupled to the anode 14 and cathode 16 via poles 17, 19 respectively. The ballast container 18 typically made of metal and/or plastic is preferably potted with a thermally conductive (electrically-non conductive) epoxy insulator 21 [and is (i.e.,

not electrically conductive), this] which serves as a heat sink to discharge heat from the unit. Alternatively, other heat sink arrangements (not shown) to dissipate heat from the ballast can be used. The ballast input 20 is preferably coupled to a standard type of connector (Figures 7 and 8 described below) so that the lamp 10 may be retro-fitted to an existing lighting system or a DC power source 901 via coupling means or cable 902 (Fig. 10). As shown in Figure 1, a portion of the connector (otherwise not shown) includes a strain relief 22. As shown in Figure 1a, the ballast container 18 is rectangular in configuration. According to this embodiment, the lamp 10 is a 10-30 watt lamp, has an overall length of about  $8 \frac{3}{16}$  inches and a maximum width of about  $2 \frac{3}{16}$  inches.

#### IN THE CLAIMS

1 (Amended). A high intensity discharge lamp assembly, comprising:

- a) [an] a high intensity discharge lamp comprising a hermetically sealed glass envelope containing a mixture of ionizable elements and/or compounds;
- b) a sealed ballast container mounted adjacent to said glass envelope;
- c) an electronic ballast contained in said container, said ballast having an input and an output;
- d) an anode disposed in said envelope and electrically coupled to one pole of said ballast output;

e) a cathode disposed in said envelope and electrically coupled to another pole of said ballast output; and

f) coupling means for coupling said input of said ballast to a DC power source[.]; and

g) heat sink means for dissipating heat from said ballast.

2 (Amended). A lamp assembly according to claim 1, further comprising:

[g)]h) a waterproof protective container covering said envelope, said waterproof protective container having a transparent window.

3 (Amended). A lamp assembly according to claim 1, further comprising:

[g)]h) a waterproof protective container covering said envelope and said ballast container, said waterproof protective container having a transparent window.

4 (Amended). A lamp assembly according to claim 1, wherein:

said coupling means is a cable with a wet pluggable plug at one end for coupling/uncoupling to/from a battery pack while under water.

6 (Amended). A lamp assembly according to claim 1, wherein:

said ballast container is potted with a thermally conductive epoxy, said epoxy serving as said heat sink means.

8 (Amended). An underwater lighting system, comprising:

- a) [an] a high intensity discharge lamp comprising a hermetically sealed glass envelope containing a mixture of ionizable elements and/or compounds;
- b) a sealed ballast container mounted adjacent to said glass envelope;
- c) an electronic ballast contained in said container, said ballast having an input and an output;
- d) an anode disposed in said envelope and electrically coupled to one pole of said ballast output;
- e) a cathode disposed in said envelope and electrically coupled to another pole of said ballast output;
- f) a battery pack having a power coupling; [and]
- g) a cable coupled to said input of said ballast to said power output of said battery pack[.]; and
- h) heat sink means for dissipating heat from said ballast.

9 (Amended). An underwater lighting system according to claim 8, further comprising:

- [h)]i) a waterproof protective container covering said envelope, said waterproof protective container having a transparent window.

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10 (Amended). An underwater lighting system according to claim 8, further comprising:

[h)]i) a waterproof protective container covering said envelope and said ballast container, said waterproof protective container having a transparent window.

13 (Amended). An underwater lighting system according to claim 8, wherein:

said ballast container is potted with a thermally conductive epoxy, said epoxy serving as said heat sink means.

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